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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,639	11/21/2001	Jorg Schepers	1999P1897	6397

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EXAMINER

TRAIL, ALLYSON NEEL

ART UNIT	PAPER NUMBER
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2876

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,639

Applicant(s)

SCHEPERS, JORG

Examiner

Allyson N Trail

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/21/2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Force et al (5,533,123).

Force et al teaches the following in regards to claims 1-3:

"The present invention is embodied in a Secured Processing Unit (SPU) chip, a microprocessor designed especially for secure data processing." (Col. 2, lines 36-38).

"By incorporating the SPU into a "smart card", using a platform such as a PCMCIA card (a standard interface promulgated by the Personal Computer Memory Card Interface Association), the combined system could function as an access card, holding information decryption keys, transaction records, credit and account information, one's own private keys, and digital certificates." (Col. 3, lines 22-28).

Force et al explains that multiple attacks of various natures must take place before the access or smart card is disabled. "A personal access card contemplated for everyday use should be resilient to the stresses and strains of such use, i.e. going

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through X-ray machines at airports, the exposure to heat if left in a jacket placed on a radiator, a mistyped personal identification number (PIN) by a flustered owner, etc.

Thus, in such an application, the SPU could be programmed with high tolerances to such abuses. A photo detector triggered by X-rays might be cued a few moments later to see if the exposure had stopped. Detection of high temperature might need to be coupled to other symptoms of attack before defensive action was taken. A PIN number entry could be forgiving for the first two incorrect entries before temporarily disabling subsequent functions as is the case with many ATMs." (Col. 3, line 61 – Col. 4, line 8).

Force et al additionally teaches that various responses are used for detecting an attempt at manipulatory interventions in a smart card. Also disclosed are multiple detectors, which are used to detect an intrusion to the smart card. Below are some examples of the responses and the detectors used.

Responses:

"An alarm response would indeed convey an externally detectable signal. The SPU may signal the calling application, for instance, to alert the user that the SPU is aware of the attack and may have to proceed to more drastic measures if such attack is not discontinued." (Col. 25, lines 41-45).

"A decoy response is one that departs from the normal mode of SPU activity. It may indeed mimic valid SPU activity. Examples would be to execute SPU commands, or to generate signals on the External Bus Interface 9, either selected at random or from some predetermined set." (Col. 26, lines 6-10).

"A restricted access response would be to disable some functions from the normal mode of SPU operation." (Col. 26, lines 11-12).

"Finally, there is the destructive response, which disables functionality of the SPU permanently. Examples include destruction in memory, by erasing keys or other secret data, or permanent physical disablement, such as the burning out of internal fuses." (Col. 26, lines 16-20).

Detectors: Metallization layer detector, photo detector 16, temperature detector 17, and a vibration detector.

"Such an attack (on the smart card) would likely trigger the Metallization Layer Detector 18, the Photo Detector 16, and running the altered circuit live under system power VDD 22 would likely trigger the Bus Monitoring Prevention (FIG. 15). The same responses as given above would likely be appropriate as well. The actual act of de-encapsulation through grinding can create enough heat to trigger the Temperature Detector 17 as well as set off a vibration detector, and again, unless done in total darkness, exposure of the die would set off the Photo Detector 16. Disabling or even destroying the keys and secret data seem the most likely responses to such a scenario." (Col. 29, lines 36-47).

Force et al teaches using additional detectors of different sensitivities to make sure that a serious attack is being made on the access card before disabling the card completely, "If the Metallization Layer Detector 18 is set off 1006, it would be hard to justify anything but a harsh policy to such an event, such as to disable the access card permanently 1036. An exception would be where the Metallization Layer Detector 18

were of the LATN cell type (FIG. 13), which is so sensitive that other detectors should be correlated to make sure that a serious attack is indeed being made on the access card." (Col. 31, lines 20-27).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Steffen (6,259,022), Majumdar et al (6,724,169), Dreifus (4,575,621), Schmall (4,661,797), Chainer et al (2002/0186145), and McCabe et al (6,068,192).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson N. Trail* whose telephone number is (571) 272-2406. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571) 272-2398. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [allyson.trail@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35

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U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Allyson N. Trail
Patent Examiner
Art Unit 2876
November 8, 2004

Jared J. Fureman
JARED J. FUREMAN
PRIMARY EXAMINER